

October 23, 2003

MATRIX MECHANICAL SOLUTIONS,LLC
ROBERT ELIOPULOS
2208 N 64TH ST.
WAUWATOSA WI 53213

Re: Description: STORMWATER REUSE SYSTEM
Manufacturer: MATRIX MECHANICAL SOLUTIONS,LLC
Product Name: STORM WATER REUSE SYSTEM
Model Number(s): URBAN ECOLOGY CENTER
Product File No: 20030321

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters Comm 82 through 84, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of October 2008.

This approval is contingent upon compliance with the following stipulation(s):

- Monitoring of these systems shall be performed by licensed POWTS Maintainers, Master Plumbers or licensed professional Engineers. The maintenance of these systems may be performed by an unlicensed individual.
- Data collection and reporting shall occur on a monthly basis. The minimum data collected and reported shall consist of the following for each system:
 - a. The scum, sludge and water volumes in all holding, storage and treatment tanks within the system;
 - b. The volume of any make-up water added to, or wastewater subtracted from the system;
 - c. Any maintenance performed on the system, including regularly scheduled maintenance;
 - d. The following data shall be collected grab samples of water withdrawn directly from the water storage chamber within the system's third stage treatment tank:
 - 1. pH;
 - 2. Biological oxygen demand - 5 day (BOD5);
 - 3. Total suspended solids (TSS);
 - 4. Fecal coliform per 100 ml;
 - 5. Color; and
 - 6. Odor
 - 7. Free chlorine residual

All chemical/physical analyses must be performed in accordance with "Standard Methods For the Examination of Water and Wastewater", current edition.

This data must be officially reported to this department by a Wisconsin registered Architect, Engineer or licensed Master Plumber who's directly overseeing the installation and maintenance. The data must be collected and submitted on a monthly basis, the filing fee for the monthly reports is \$25.00. Data submitted without the \$25.00 fee does not constitute a valid submittal and shall be returned. If the data requested for a given system is more than thirty days late, then the system will be shut down and ordered removed and the pertinent experimental system approval immediately rendered null and void.

- Any initial start-up water, or make-up water, added to these systems must be supplied from a NR 811 or NR 812 approved source.
- The final effluent from these systems may only be used for the following specific end uses:
 - a. Surface irrigation of landscaping (1, 2);
 - b. Vehicle washing (1);
 - c. Toilet and urinal flushing;
 - d. Air conditioning;
 - e. Once through cooling;
 - f. Subsurface dispersal/irrigation;
 - g. Soil compaction/dust control (1); and
 - h. Washing aggregate/making concrete (1);

Other urban uses with similar human access or exposure must be approved by this department, in writing, prior to these devices being sold or installed for any other purposes other than those listed in a-h above. Any, or all, of the aforementioned end uses may require a Wisconsin Pollutant Discharge Elimination System (WPDES) permit, contact the Wisconsin Department of Natural Resources WPDES permit program at (608) 267-7639 to determine what, if any, permitting may be required.

1 = in addition to acceptable disinfection with free chlorine, or equivalent alternative, systems installed for this end use application must also provide an acceptable means of cyst/oocyst reduction.

2 = does not include food crops

- Bio-Guard, sodium hypochlorite, 3-inch diameter, non-expandable tabs, EPA Product Number 5185-144, EPA Establishment Number 585-GA-1, must be installed in the chemical tube, downstream of the activated carbon filter, within the third stage treatment tank, at all times.

The free chlorine concentration within the water storage chamber must be greater than, or equal to, 1.0 mg/l at all times.

- In addition to department approved plans, if the final effluent from these systems is discharged below the surface of a soil, then at least one of the following must be true:
 - 1. There must be a minimum of one foot of separation between the point of infiltration and groundwater; or
 - 2. The wastewater must contain 0 fecal coliform per 100 ml.

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- A permanent tag or label must be affixed to these experimental systems in a location that is visible after installation is complete. The tag or label must display the following minimum information:
 1. The complete name and mailing address of the manufacturer (i.e. Environmental Plumbing Solutions, Inc.);
 2. The telephone number of the manufacturer (i.e. Environmental Plumbing Solutions, Inc.);
 3. The model number of the experimental system

The department is in no way endorsing this product or any advertising, and is not responsible for any situation which may result from its use.

Sincerely,

Glen W. Schlueter
Engineering Consultant-Plumbing Product Reviewer
Bureau of Integrated Services
Safety and Buildings Division
Department of Commerce
(608) 267-1401 Phone
(608) 267-9566 Fax
gschlueter@commerce.state.wi.us Email

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